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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,825	06/25/2001	Senthil Balasubramaniam	17310-234271	9727

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EXAMINER

PYO, KEVIN K

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 08/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/888,825

Applicant(s)

BALASUBRAMANIAM, SENTHIL

Examiner

Kevin Pyo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: \_\_\_\_\_

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 6, 7, 9-13 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayes.

Regarding claim 1, Hayes shows in Figs.5 and 7 the following elements of applicant's claim: a) a light source (52, 82) for producing a light beam; b) a beam splitter (54, 84) for directing a first portion of the light beam (90, 122) toward a target (62) from which a reflected beam is returned; c) a detector (70) for detecting the reflected beam at a predetermined polarization state; and d) a polarization component (94, 106) for producing the predetermined polarization state in the reflected beam, the polarization component positioned between the beam splitter and the target (Fig.5 and 7).

Regarding claim 2, Hayes shows in Fig.5 a quarter-wave plate (94).

Regarding claims 3 and 4, Hayes shows in Fig.5 the recited first beam splitter (68) and the recited second beam splitter (86).

Regarding claim 6, Hayes discloses a polarizer (94) positioned between the first and second beam splitter (86 and 68).

Regarding claim 7, Hayes discloses a beam reducer (102).

Regarding claim 9, Hayes shows in Fig.5 the beam splitter (68) is positioned between the target (62) and the detector (70).

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Regarding claim 10, Hayes shows in Fig.7 a Z-height detector (66) and a Z-height directional component (54).

Regarding claim 11, Hayes shows in Fig.7 the recited polarization component (104).

Regarding claim 12, Hayes discloses the use of a polarized laser (82).

Regarding claim 13, Hayes discloses the recited polarizer (98).

Regarding claim 23, Regarding claim 1, Hayes shows in Fig. 5 the following elements of applicant's claim: a) a light source (82) for producing a light beam; b) first and second beam splitters (68 and 86) for directing the light beam toward a target (62) from which a reflected beam is returned; and c) a detector (70) for detecting light at substantially only a predetermined polarization state with the detector positioned to intercept the reflected beam, wherein a quarter-wavelength plate (94) positioned between the second beam splitter (86) and the target (62) for producing the predetermined polarization state in the reflected beam.

3. Claims 14-18 are rejected under 35 U.S.C. 102(b) as being anticipated by IBM Technical Disclosure entitled as " Head/Suspension Assembly Static Pitch/Roll Angle Tester" (hereinafter REF).

Regarding claim 14, REF shows in its Figure the following elements of applicant's claim: a) providing a light beam (laser producing a light beam); b) directing the beam onto a target (the reflecting surface of a slider) from which a reflected beam is returned; c) producing a predetermined polarization state in the reflected beam by passing the beam and the reflected through a first polarization component (quarter-wavelength plate); and d) detecting the reflected beam at the predetermined polarization state (photodetector array).

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Regarding claim 15, REF shows in its Figure a detector (photodetector array) and a polarizer (linear polarizer).

Regarding claims 16 and 17, the limitations therein are shown in Figure of REF.

Regarding claim 18, REF discloses the use of a polarizing beam splitter (see the page 1, lines 21-23 in the attached Disclosure Text of REF).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 8 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayes.

Regarding claim 5, although Hayes does not specifically mention that a beam splitter (68) is a polarizing beam splitter, the specific type of a beam splitter used would have been obvious to one of ordinary skill in the art in view of design requirements.

Regarding claim 8, although Hayes does not specifically mention the recited collection optics, the use of collection optics (i.e. for the purpose of focusing light beam) and the specific placement of the collection optics would have been obvious to one of ordinary skill in the art in view of the desired performance, the effective performance of light spot detection, design requirements, etc.

Regarding claim 24, the exact placement of a polarizer would have been obvious to one of ordinary skill in the art in view of design requirements.

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6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over REF.

Regarding claim 19, REF differs from the claimed invention in that a polarizer is positioned after a beam splitter, instead of before the beam splitter. However, the exact placement of a polarizer would have been obvious to one of ordinary skill in the art in view of design requirements.

7. Claims 20-22, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayes in view of REF.

Regarding claims 20-22, 25 and 26, Hayes discloses a combined static attitude and Z-height measurement device for measuring the static attitude and Z-height of a head suspension target. Hayes differs from the claimed invention in that a static attitude measurement device does not disclose a quarter-wavelength plate positioned between a beam splitter (68) and a target (62). However, such an arrangement in the a static attitude measurement device is known as disclosed by REF and it would have been obvious to one of ordinary skill in the art to place a polarizer between a beam splitter (68) and a target (62), since the exact placement of a polarizer would have been obvious to one of ordinary skill in the art in view of design requirements and the desired performance.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Pyo whose telephone number is 703-308-4841. The examiner can normally be reached on Mon-Fri (with flexible hour), First Mon. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 703-308-4852. The fax phone numbers for the

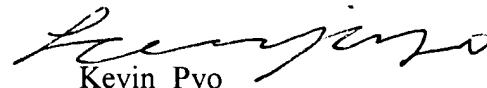
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organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Kevin Pyo  
Primary Examiner  
Art Unit 2878

pkk  
July 28, 2003